ALL-IN-ONE, YEAR-ROUND HEATING, COOLING AND DOMESTIC HOT WATER SUPPLY SOLUTION
HEAT PUMP SOLUTION TO FIT BOTH NEW BUILD HOMES AND THE HARDER TO HEAT OLDER PROPERTIES

High Quality, Innovative Products

Innovation and quality are constantly at the forefront of Daikin’s philosophy. Daikin’s systems provide highly efficient solutions, which minimize the impact on the environment and running costs.

Daikin Altherma™ Advantages over Traditional Boiler Systems

- 30 – 50% reduction in CO₂ emissions
- Low running and maintenance costs
- Low noise – unobtrusive and quiet
- Easy to install, no groundwork i.e. trenches or boreholes
- Ideal for off gas grid properties
- Single phase power supply with low starting current
- Flexible, can be connected to underfloor heating, low temperature radiators or fan coils
- Advanced Energy Saving Features
  - Outdoor reset built in as standard
  - Inverter Technology
- Excellent option for net zero home- with thermal solar domestic hot water production and inverter driven compressor compatibility with photovoltaic solar.

DID YOU KNOW…

Renewable heating and hot water solutions help save money and also help the environment
3 IN 1 SYSTEM

FOR NEW CONSTRUCTION & RENOVATION

- MORE COMFORT
- LOW ENERGY CONSUMPTION
- FEWER CO₂ EMISSIONS

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Daikin Altherma™ is an innovative system that heats, produces domestic hot water and can even cool spaces. Daikin Altherma offers your customer maximum comfort the whole year through.

These heat pumps are also an interesting alternative for classic gas or fuel oil heating as they offer your customers unique benefits:

- They use renewable energy sources (such as outside air)
- They deliver considerable savings in energy
- They deliver a significant contribution in the fight against CO₂ emissions
- They can provide heating, cooling and domestic hot water

ENERGY EFFICIENT OPERATION

The air-to-water heat pump from Daikin uses a sustainable energy source. In fact, it extracts heat from the outside air. The system consists of a closed circuit containing R-410A refrigerant. A thermodynamic cycle is created through evaporation, condensation, compression and expansion. A heat pump “pumps” heat from a low to a high temperature level. The heat raised is transferred to the water distribution system (under floor heating, low temperature radiators and/or fan coil units) in the home via a heat exchanger.

Depending on the model and the conditions, a Daikin Altherma air-to-water heat pump delivers between 3 and 5 kWh of usable heat for every 1 kWh of electricity it uses. That’s a great ratio from 3:1 - 5:1!

DAIKIN HEAT PUMP EXPERIENCE

Daikin has more than 50 years of experience with heat pumps, and supplies more than one million of them to homes, shops and offices each year. This success is not just a quirk of fate: Daikin has always been at the cutting edge of technology and its goal is to provide you with turn-key comfort. Only a market leader can guarantee you this level of service and quality control!

HIGH EFFICIENCY MEANS LOW ENERGY COSTS

Heating system efficiency is measured using the Coefficient of Performance (COP), which is the ratio of heat produced to energy consumed.
DAIKIN OFFERS THE COMPLETE RENEWABLE SOLUTION FOR HOME HEATING AND HOT WATER

Daikin Altherma™ Benefits for New Construction and Retrofit Installations

- Cost effective installations
- Inverter technology and weather compensation as standard
- Low energy consumption
- Reduced CO₂ emissions
- Safe, easy to maintain and comfortable all year round
- No extensive ground works
- No Flues, fuel lines or fuel tanks
- Providing all your heating and hot water needs throughout the year
- A fully packaged heat pump system – no hidden ‘extras’
- Superior technology ensuring performance is unaffected in a cool climate, in fact even as low as -4°F (-20°C)

How Heat Pumps Work

A “Heat Pump” is a mover of heat, utilizing the available renewable heat from the outside air. It works on the same principle as a refrigerator, but in reverse!

1. STAGE ONE
The heat transfer medium (the refrigerant) is colder than the heat source (the outside air). As the outside air passes across the first heat exchanger (the evaporator) the liquid refrigerant absorbs the heat and evaporates.

2. STAGE TWO
The vapor then passes to the compressor and is compressed. When compressed the pressure is increased and the temperature of the vapor rises, effectively concentrating the heat.

3. STAGE THREE
The hot vapor passes to the second heat exchanger (the condenser) where the heat is rejected and the vapor condenses back into a liquid. In the case of Altherma the rejected heat is passed into the water of the central heating and hot water system ready for use in the home.

4. STAGE FOUR
The liquid refrigerant then passes through an expansion valve, reducing its pressure and temperature, ready to start the whole cycle once again.

DID YOU KNOW THAT...

Air source heat pumps provide 3-5kW of energy for every 1kW of electricity used.

DID YOU KNOW THAT…

Air source heat pumps provide 3-5kW of energy for every 1kW of electricity used.
Daikin offers you the choice between a Daikin Altherma™ system with an outdoor unit and indoor unit, or a Daikin Altherma™ Monobloc System, in which the hydrobox components are located within the outdoor unit. The Daikin Altherma™ is a low temperature heating system optimized to work with radiant floor heating.

### DAIKIN ALTHERMA™

#### SPLIT TYPE

<table>
<thead>
<tr>
<th>Application</th>
<th>Heating and (optional) cooling (+ domestic hot water)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat pump type</td>
<td>Outdoor (compressor) unit + Indoor (hydronic parts) unit</td>
</tr>
<tr>
<td>R-410A refrigerant piping</td>
<td>Between outdoor unit and indoor unit</td>
</tr>
<tr>
<td>H₂O piping</td>
<td>Between indoor unit and indoor heating appliances</td>
</tr>
<tr>
<td>Installer’s advantages</td>
<td>No extra insulation of H₂O piping required to protect from freezing up</td>
</tr>
</tbody>
</table>

The Split system can be combined with:
- Under floor heating
- Fan coil units
- Low temperature radiators, to provide your customers the comfort they require.

In addition, the Split system can be connected to:
- A domestic hot water tank to supply your customer's hot water needs
- Solar collectors, with optional solar kit, to compliment the production of hot water
- A room thermostat, to regulate the ideal temperature easily, quickly and conveniently.
<table>
<thead>
<tr>
<th><strong>Application</strong></th>
<th>Heating and (optional) cooling (+ domestic hot water)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Heat pump type</strong></td>
<td>Outdoor unit only (compressor and hydronic parts combined)</td>
</tr>
<tr>
<td>R-410A refrigerant piping</td>
<td>Inside outdoor unit</td>
</tr>
<tr>
<td>H₂O piping</td>
<td>Between outdoor unit and heating terminal units</td>
</tr>
<tr>
<td>Installer’s advantages</td>
<td>Only H₂O piping needed to install the system</td>
</tr>
</tbody>
</table>

The monobloc system can be combined with:
- Under floor heating
- Fan coil units
- Low temperature radiators, to provide your customer the comfort they require.

In addition, the monobloc system can be connected to:
- A domestic hot water tank to supply your customer's hot water needs
- Solar collectors, with optional solar kit, to compliment the production of hot water
- A room thermostat, to regulate the ideal temperature easily, quickly and conveniently.
The system consists of 5 components which work together to provide the ideal comfort and water temperature.

1A/ OUTDOOR UNIT:
AN EFFICIENT USE OF ENERGY FROM THE AIR
Daikin Altherma uses a natural source of energy. The outdoor unit extracts heat from the outside air and transfers it inside through refrigerant piping to supply heating. The compact outdoor unit is easily installed and, as no drilling or excavation work is required, it can also be installed in condos and apartments.

1B/ HYDROBOX:
THE HEART OF THE DAIKIN ALTHERMA™ SYSTEM
The hydrobox heats the water that circulates through low temperature radiators, floor heating systems or fan coil units and also provides domestic hot water. If you opt for the combination of heating and cooling, then the hydrobox can also reverse the cycle to provide lower water temperatures and thus cooling to the home.

2/ DOMESTIC HOT WATER TANK:
FOR LOW ENERGY CONSUMPTION
As for your domestic hot water, Daikin Altherma is just as clever. The unique lay-out and special placement of the system components maximize energy efficiency. The water inside the storage tank is primarily warmed up by thermal energy from the outside air, thanks to a heat exchanger connected to the heat pump. However, an additional electrical heating element in the domestic water tank can take care of extra heat required in the shower, tub or sink. At necessary intervals the water is automatically heated to 158°F or more to prevent the risk of bacteria growth. With Daikin Altherma, delightfully warm and perfectly safe water can be enjoyed at all times. Depending on the daily consumption of hot water, Daikin Altherma domestic hot water tanks are available in two different sizes.

1A/ USING HEAT PUMP TECHNOLOGY
2B/ WITH SOLAR KIT OPTION
3 / MONOBLOC OUTDOOR UNIT: ALL IN ONE
In addition to Daikin Altherma Split type systems, Daikin has a monobloc version in which the hydrobox components are located within the outdoor unit. In this new system, the water pipes, rather than refrigerant lines, run indoors from the outdoor unit, making installation much quicker and easier for the installer.

4 / SOLAR CONNECTION KIT
Averaged over an entire year, the sun delivers half of the energy we need to bring our domestic water up to the desired temperature for free. Your customer can use this solar energy by connecting a solar kit to his Daikin Altherma system. A solar kit is a thermal solar-energy system whereby solar rays are transformed into heat. The heat is then stored in a water supply tank.

4A / SOLAR COLLECTOR PANEL (FIELD SUPPLY)
The high-efficiency collectors transfer all the short-wave solar radiation into heat as a result of their highly selective coating. The collectors can be mounted on the roof tiles.

4B / SOLAR PUMP STATION (FIELD SUPPLY)
Typical pump stations are equipped with safety valve, pressure gauge and connection for expansion vessel, and flow and return temperature indication. A digital temperature difference controller with plain text is also included. The Solar yield (kWh) is measured by a sensor. Pump speed is controlled by the solar intensity to ensure maximum efficiency. The heat pump is disabled during solar heating as solar energy gets the first priority, which ensures system protection and maximum efficiency.

5A / HYDRONIC FAN COIL UNIT-EFWT (OPTION)
For Hydro-Air or traditional forced air applications, the high efficiency hydronic fan coil unit can be used to meet your comfort needs.

5B / DAIKIN THERMOSTAT-EKRTWA
With the wired room thermostat, the ideal temperature can be easily, quickly and conveniently regulated.
(Daikin Altherma room thermostat is for radiant applications only)
3. TECHNICALLY

1 - DAIKIN ALTHERMA™ SPLIT TYPE AIR-TO-WATER HEAT PUMP

THE OUTDOOR UNIT

- Compact, weather-resistant and easy to install
- Contains an inverter controlled compressor for energy efficiency and precise temperature regulation
- Heat pump operation range: heating and domestic hot water to -4°F (-20°C) outside temperature

HEAT EXCHANGER

ANTI-CORROSION TREATMENT

As standard, the heat exchanger in the outdoor unit is provided with an anti-corrosion treatment. This treatment guarantees and noticeably increases the resistance against acid rain and salt corrosion.

Typical Daikin heat exchanger

Hydrophilic layer
Aluminium
Corrosion-resistant acrylate resin

SUPER PERFORMANCE THANKS TO THE INVERTER PRINCIPLE

The coefficient of performance (COP) of the Daikin Altherma heat pump is also largely attributable to the Daikin inverter principle. An integrated frequency-converter adjusts the rotational speed of the compressor to suit the heating demand. Therefore, the system seldom operates at full capacity and your customer only pays for the energy which they actually need.

Heating operation:

Temperature / Power input

Set temp.

Temperature remains stable

Time

System without Inverter

System with Inverter

The scroll-compressors are designed as a compact, robust, low-noise device to guarantee optimal operational reliability (no valves and built-in swing-link coupling) and efficiency (through a low initial flow and a constant compression ratio). It uses Pulse Width Modulation (PWM) Technology.

The swing-compressors have been setting trends in the area of energy efficient performance for the past 10 years (leaks and friction are basically non-existent). The design of the swing compressor reduces friction during operation for smoother and quieter rotation with less vibration resulting in a more durable compressor. It also minimizes the leakage of refrigerant gas during compression. The result is a system that operates quietly and efficiently. It uses Pulse Amplitude Modulation (PAM) Technology. The PAM Control reduces energy loss by controlling how often the converter switches on and off.
HYDROBOX

- Available in two versions: EKHBH for heating only, EKHBX for heating and cooling
- Built-in electric back-up heater for additional heating during extremely cold outdoor temperatures or as back-up in case of problems with the outdoor unit
- 2 shut-off valves to assemble the water outlet and inlet
- Compact and easy to install: all components are pre-assembled, all parts are easy to reach for maintenance. Wall-mounting is comparable to a traditional gas heater.

1. Heat exchanger
2. Expansion tank (2.64 gal.)
3. Circulator
4. Tank with back-up heating
5. Air purge valve
6. Refrigerant liquid connection
7. Refrigerant gas connection
8. Water inlet connection
9. Water outlet connection
10. Pressure gauge (water circuit)
11. Water filter
12. Pressure relief valve
13. User interface
14. Switch box
15. Flow switch

EXTRA POSSIBILITIES THANKS TO THE INDOOR UNIT...

Heating and Cooling

If you choose Daikin Altherma with an indoor unit EKHBX, it can not only heat the house, but also cool it. The heat pump is then equipped with a reversible 4-way valve, whereby the refrigeration cycle is reversed and heat is removed from the rooms. The indoor unit can cool rooms via under floor cooling or fan coil units.

Set temperature limits

To prevent incorrect manual adjustments, temperature limits can be implemented for both cooling and heating. With under floor heating, for example, it is important that the temperature of the water is controlled to the type of floor element. To prevent condensation problems, the temperature for floor cooling can never be lower than 64.4°F (18°C). For fan coil units, the water temperature can be allowed to decrease to 41°F (5°C).
THE USER INTERFACE

With the easy to reach digital user interface in the indoor unit, controlling the Daikin Altherma system is also simple for your customer. The display offers a great deal of useful information:

- Day of the week
- Time
- Operating mode
  (heating or cooling, heating domestic hot water, low-noise operating outdoor unit)
- Compressor operation
- Pump operation
- Back-up operation
- Booster heating operation
  (in the hot water tank)
- Error codes for alarm
- Temperature
  (outdoor temperature, temperature in hot water tank, leaving water temperature at indoor unit exit)

DID YOU KNOW...

Your customer can select a maximum of five time periods each day during which the following functions will or will not be activated:

- Low-noise operation of the outdoor unit
- Electric booster heater in the hot water tank
- Heating of the domestic water
- Reduction of the water temperature

The five time periods per function are repeated daily. Your customer can still manually adjust the system when he stays home unexpectedly or stays up later. These settings are automatically switched off at the next programmed event.
2 - DAIKIN ALHERMA™ MONOBLOC AIR-TO-WATER HEAT PUMP

- All hydronic parts are located within the outdoor unit
- H₂O piping between outdoor unit and indoor heating apparatus

1. High efficiency compressor
2. Expansion tank
3. Tank with back up heating
4. Pressure gauge (water circuit)
5. Refrigerant connection

DID YOU KNOW…
In order to protect the water pipes from freezing up during winter, insulation is provided for all hydronic components and special software has been applied to activate the pump and back-up heater if necessary. This prevents the water temperature from dropping below freezing point and can minimize the need for the addition of glycol to the water pipes.

- **Built-in electric back-up heater** for additional heating during extremely cold outdoor temperatures. The Daikin Altherma Monobloc is standard equipped with a 6 kW back-up heater, which can be adjusted to 3 kW.
  
  If necessary, an “in line” back-up heater of 6 kW can be mounted indoors (also adjustable to 3 kW or 3.5 kW)

- **The Daikin Altherma™ monobloc is available in different versions**
  - heating only or heating and cooling
  - with bottom plate heater
  - single phase
  - 35MBH, 48MBH, or 54MBH

- **The scroll-compressors** provided are designed as a compact, robust, low-noise device to guarantee optimal operational reliability (no valves and built-in swing-link coupling) and efficiency (through a low initial flow and a constant compression ratio).
3 - THE DOMESTIC HOT WATER TANK

- Available in 2 capacities: 50 and 80 gallons for floor mounted installation.
- Stainless steel design.
- 1 37/64” cf-c-free insulation material (polyurethane).
- Contains 2 heating elements: a heat exchanger at the bottom where the hot water from the hydrobox circulates and an extra 3 kW electric heater at the top.
- A thermistor in the hot water tank controls a 3-way valve and/or booster heater via the hydrobox.

1. Field supplied fitting
2. Temperature and Pressure relief valve (field supplied)
3. Hot water connection (H)
4. Field supplied fitting
5. Electrical box
6. Electrical box lid
7. Recirculating pump connection
8. Thermistor socket
9. Flow inlet connection (F) (from main unit)
10. Heat exchanger coil
11. Return outlet connection (R) (to main unit)
12. Cold water connection
13. Threaded hole for use with solar kit option.
   (Refer to the Installation manual EKSOLHWBAVJ).
14. Anode rod
15. Thermal protectors (Q2L, Q3L)
16. Booster Heater

Flow direction

Available in 2 capacities: 50 and 80 gallons for floor mounted installation.
Stainless steel design.
1 37/64” cf-c-free insulation material (polyurethane).
Contains 2 heating elements: a heat exchanger at the bottom where the hot water from the hydrobox circulates and an extra 3 kW electric heater at the top.
A thermistor in the hot water tank controls a 3-way valve and/or booster heater via the hydrobox.

Flow direction
MULTIFUNCTIONAL HOT WATER TANK …

■ Stainless steel

Daikin offers a tank made of stainless steel equipped with a sacrificial rod to protect the tank against corrosion.

■ Anti-bacteria function

To prevent the development of bacteria, the hot water tank is equipped with an anti-bacteria function. You can set up the program so the water is heated to a specific temperature (standard setting = 158°F (70°C) at a set time on one or more days of the week.

■ Flexible control

It is possible to set “priority setting” for the production of domestic hot water. In this way the customer has domestic hot water available at any time of the day.

The heating of the domestic hot water can also be set up according to the night tariff. Another opportunity for rational energy consumption.

■ Regulating switch-on and shut-off temperatures

You personally set the minimum and maximum temperature when the water in the tank must be heated by the heat pump for the customer.

■ Delaying booster heater switch-off

To prevent the booster heater from switching on and off too often, you can allow the system to switch off as soon as the temperature reaches a maximum of 39°F (22°C) higher than the set temperature.

■ Allowing back-up heater and booster heater to work separately

Programming the system to prevent the simultaneous operation of the back-up heater and the booster heater is also possible. An interesting possibility for homes with a limited current amp load!

■ No natural gas or fuel oil connection or exhaust fume channel required.

DID YOU KNOW…

Your customers with a solar boiler can enjoy wonderful hot water at any time, even when the sun is not shining? An integrated re-heater is included in the system to help the sun on cloudy days.
SOLAR THERMAL DOMESTIC HOT WATER (DHW)

Averaged over an entire year, the sun delivers half of the energy we need to bring our domestic water up to the desired temperature for free. Your customer can use this solar energy by connecting a solar kit to the Daikin Altherma system. A solar kit is a thermal solar-energy system, whereby solar rays are transformed into heat. The heat is then stored in a water supply tank.

SOLAR KIT

The solar kit provides the transfer of solar heat to the Daikin Altherma hot water tank via an external heat exchanger. In contrast to tanks with two heat exchangers, this system allows the entire content of the tank to be efficiently heated with solar heat and, if necessary, with heat pump energy.

SOLAR THERMAL SYSTEM

High-efficiency collectors transfer all the short-wave solar radiation into heat as a result of their highly selective coating. The collectors can be mounted on the roof tiles.

The solar kit controller and 3rd party pump station provide the transfer of solar heat to the Daikin Altherma domestic hot water tank via an external heat exchanger. In contrast to tanks with two heat exchangers, this system allows the entire content of the tank to be efficiently heated with solar heat and, if necessary, with heat pump energy.

Daikin Altherma™ when used with a solar thermal package

- Solar collector (field supply)
- Plumbing network and solar pump station (field supply)
- Supply tank: standard Daikin Altherma™ domestic hot water tank
- Solar kit
- Auxiliary (Daikin Altherma™ heat pump unit, which also provides the home with heating)
DID YOU KNOW THAT…

Daikin has set up a number of monitoring sites (in Europe, Oregon, New Hampshire, Alaska, ...), where Daikin Altherma has been tested under totally different climate conditions. High satisfaction has been achieved with increased comfort, stable indoor temperature, low energy consumption and hot water always available... whatever the weather conditions at the monitoring site.

5A - HYDRONIC FAN COIL UNIT - EFWT

The Hydronic Fan Coil Unit has been engineered to provide an effective solution in combination with the “Low Temperature” Daikin Altherma system. High efficiency and comfort are delivered and allow your application to blend into the environment using the traditional ductwork for Heating and Cooling air distribution.

- Single A-Coil configured for Hydronic Heating and Cooling Operation
- ECM fan motor for improved sound levels and energy savings
- Flexible installation with Upflow, Horizontal L and Horizontal R configuration possible
- Factory installed MERV 8 Filter for cleaner indoor air (throwaway type)
- Minimal cabinet dimensions with 1/2” TUF-SKIN Cabinet Insulation
- Option electric heat integrated fan coil units also available
- Works with most conventional 24 volt thermostats

5B - DAIKIN ROOM THERMOSTAT - EKRTWA

The large LCD screen on the room thermostat indicates all the necessary information regarding the setting of the Daikin Altherma system in a blink of an eye. The user can also easily navigate between the different menus whose most common functions and modes include:

- Radiant Applications Only Solution (no fan control). For fan control, third party stat required
- Setting the temperature of the room based on measurements from the built-in sensor
- Cooling and heating mode
- Off function (with integrated frost-protection function)
- Vacation function mode
- Comfort and reduced function modes
- Time (day and month)
- Programmable weekly timer with 2 standard and 5 pre-set programs
- Keylock function
- Setting limits. The installer can change the upper and lower limits

<table>
<thead>
<tr>
<th>Functions</th>
<th>Wired room thermostat EKRTWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating only</td>
<td>✔</td>
</tr>
<tr>
<td>Heating and cooling</td>
<td>✔</td>
</tr>
<tr>
<td>Comfort function mode</td>
<td>✔</td>
</tr>
<tr>
<td>Reduced function mode</td>
<td>✔</td>
</tr>
<tr>
<td>Scheduled function mode</td>
<td>✔</td>
</tr>
<tr>
<td>Number of setpoint changes</td>
<td>12/day</td>
</tr>
<tr>
<td>Holiday function mode</td>
<td>✔</td>
</tr>
<tr>
<td>Off function</td>
<td>✔</td>
</tr>
<tr>
<td>Setpoint limitation</td>
<td>✔</td>
</tr>
<tr>
<td>Keylock function</td>
<td>✔</td>
</tr>
</tbody>
</table>

TECHNICALLY
Customers today are, more than ever, conscious of the cost of heating.
There is not only the increasing cost of fuel oil and natural gas, but also the limited supply of fossil fuels and the problem of CO₂ emissions.

1. **66 To 80% Additional Heat**

A heat pump boiler works more efficiently and saves more energy than a traditional heating system using fossil fuel. Daikin Altherma™ generates at least 3 to 5 kW of additional heat per 1kW of electricity used. Talk about a good investment.

**OPERATING COSTS:**

Conditions: Required annual heating energy: 20,000 kWh. Source: Energy prices based on EUROSTAT statistics [first semester 2007].

2. **PER (primary energy ratio)**

This is the relationship between the useable energy generated and the primary energy consumed, with consideration for the electricity production efficiency and the electricity distribution.

**LOW PRIMARY ENERGY CONSUMPTION**

Conditions: For combustion systems, the PER indicates the overall efficiency of the system, while for heat pumps it is equal to the seasonal performance factor multiplied by the electricity production efficiency which on average is 0.4 in the European Union.

**LOWER CO₂ EMISSIONS**

Daikin Altherma produces no direct CO₂ emissions, so you personally contribute to a better environment. The system does use electricity, but even without renewable electricity the CO₂ emissions are still much lower than boilers that use fossil fuels.
5. APPLICATIONS

UNDERSTANDING DESIGN AND APPLICATION

To better understand the startup and service of the Daikin Altherma system, it is important to also understand basic principles of design and application. The next few pages will describe different ways of how the system can be applied.

Basic Steps for selecting the correct Daikin Altherma system

**DESIGN STEP 1**

- Calculation of heat loss and heat gain.
- Calculation of domestic hot water requirements.

**DESIGN STEP 2**

- Deciding the leaving water temperature range needed of heat/cool emitters that will cover the heat loss and heat gain.

**DESIGN STEP 3**

- Selection of the Daikin Altherma™ system based on heat loss calculation and temperature range needed for heat emitters.
- Tip: Use the available Daikin Altherma™ selection and software tools.

1. **Mono-Valent**
   - (Mild Climate):
   - 100% Heat pump coverage: selection of bigger capacity and higher investment cost heat pump

2. **Mono-Energetic**
   - (Cold Climate):
   - Best balance between investment cost and running cost, results in lowest Lifecycle Cost

3. **Co-Valent**
   - (Mid-Ultra Cold Climate):
   - Utilization of heat pump with combination of the optional second heat source (electric, oil or gas boiler) for Mid-ultra cold climate heating days

4. **Bi-Valent**
   - (Ultra-Cold Climate):
   - Utilization of heat pump then switching over to alternative heat source like boiler for ultra cold climate heating days
1. Application “heating only” with a room thermostat connected to the indoor unit

2. Application “heating” and “production of domestic hot water”
The temperature in each room is regulated by a valve on every water circuit. Hot water for domestic use is delivered by the domestic hot water tank connected to the indoor unit.
3. Application “heating/cooling” via room thermostat and “production of domestic hot water”

Heating using under floor heating loops and fan coil units. Cooling using only the fan coil units. Hot water for domestic use is delivered by the domestic hot water tank connected to the indoor unit.

4. Bi-valent application

* Field Supply
2. Application “heating” and “production of domestic hot water”
The temperature in each room is regulated by a valve on every water circuit. Hot water for domestic use is delivered by the domestic hot water tank connected to the unit.
3. Application “heating/cooling” via room thermostat and “production of domestic hot water”

Heating using under floor heating loops and fan coil units. Cooling using only the fan coil units. Hot water for domestic use is delivered by the domestic hot water tank connected to the unit.

4. Application “heating/cooling” without a room thermostat

but with a heating only room thermostat controlling the underfloor heating and a cooling/heating thermostat controlling the fan coil units.
### OUTDOOR SPLIT TYPE

#### OUTDOOR UNIT

<table>
<thead>
<tr>
<th>Model</th>
<th>ERLQ018BAVJU</th>
<th>ERLQ024BAVJU</th>
<th>ERLQ030BAVJU</th>
<th>ERLQ036BAVJU</th>
<th>ERLQ048BAVJU</th>
<th>ERLQ054BAVJU</th>
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<tbody>
<tr>
<td><strong>Nominal capacity (1)</strong> Heating (Btu/hr)</td>
<td>19,620</td>
<td>23,340</td>
<td>28,760</td>
<td>38,200</td>
<td>47,800</td>
<td>54,600</td>
</tr>
<tr>
<td>Cooling (Btu/hr)</td>
<td>24,570</td>
<td>27,840</td>
<td>28,560</td>
<td>38,200</td>
<td>47,800</td>
<td>54,600</td>
</tr>
<tr>
<td><strong>Nominal input (1)</strong> Heating (kW)</td>
<td>2.58</td>
<td>3.2</td>
<td>3.91</td>
<td>4.34</td>
<td>5.94</td>
<td>6.94</td>
</tr>
<tr>
<td>Cooling (kW)</td>
<td>2.36</td>
<td>2.87</td>
<td>3.06</td>
<td>3.44</td>
<td>4.24</td>
<td>4.6</td>
</tr>
<tr>
<td>COP</td>
<td>4.25</td>
<td>4.16</td>
<td>3.81</td>
<td>4.2</td>
<td>4.28</td>
<td>4.03</td>
</tr>
<tr>
<td>EER</td>
<td>10.41</td>
<td>9.7</td>
<td>9.33</td>
<td>12.17</td>
<td>9.95</td>
<td>8.73</td>
</tr>
<tr>
<td><strong>Sound level</strong> Heating dBA</td>
<td>61</td>
<td>61</td>
<td>62</td>
<td>64</td>
<td>64</td>
<td>66</td>
</tr>
<tr>
<td>Cooling dBA</td>
<td>63</td>
<td>63</td>
<td>63</td>
<td>66</td>
<td>66</td>
<td>69</td>
</tr>
<tr>
<td><strong>Sound pressure level</strong> Heating dBA</td>
<td>48</td>
<td>48</td>
<td>49</td>
<td>49</td>
<td>51</td>
<td>53</td>
</tr>
<tr>
<td>Cooling dBA</td>
<td>48</td>
<td>48</td>
<td>50</td>
<td>50</td>
<td>52</td>
<td>54</td>
</tr>
<tr>
<td><strong>Dimensions (Net)</strong> HxWxD in.</td>
<td>55 7/8 x 56 1/2 x 15 1/32</td>
<td>55 7/16 x 56 1/2 x 15 1/32</td>
<td>55 7/16 x 56 1/2 x 15 1/32</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight Net lbs.</td>
<td>397</td>
<td>397</td>
<td>397</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross lbs.</td>
<td>441</td>
<td>441</td>
<td>441</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Leaving water temperature range</strong> Heating °F (°C)</td>
<td>59 - 131 (15 - 55)</td>
<td>59 - 131 (15 - 55)</td>
<td>59 - 131 (15 - 55)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooling °F (°C)</td>
<td>N/A</td>
<td>41 - 71.6 (5 - 22)</td>
<td>41 - 71.6 (5 - 22)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Expansion vessel</strong> Volume gal.</td>
<td>2.64</td>
<td>2.64</td>
<td>2.64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. water pressure PSI</td>
<td>43.5</td>
<td>43.5</td>
<td>43.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Water piping connections</strong> Diameter (OD) in.</td>
<td>ø 1/4</td>
<td>ø 1/4</td>
<td>ø 1/4</td>
<td>ø 1/4</td>
<td>ø 1/4</td>
<td>ø 1/4</td>
</tr>
</tbody>
</table>

#### OUTDOOR MONOBLOC TYPE

#### OUTDOOR UNIT

<table>
<thead>
<tr>
<th>Model</th>
<th>ERLQ036/048/054BAVJU</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nominal capacity (1)</strong> Heating (Btu/hr)</td>
<td>38,200</td>
</tr>
<tr>
<td>Cooling (Btu/hr)</td>
<td>43,800</td>
</tr>
<tr>
<td><strong>Nominal input (1)</strong> Heating (kW)</td>
<td>2.53</td>
</tr>
<tr>
<td>Cooling (kW)</td>
<td>2.36</td>
</tr>
<tr>
<td>COP</td>
<td>4.32</td>
</tr>
<tr>
<td>EER</td>
<td>11.21</td>
</tr>
<tr>
<td><strong>Operation range</strong> Heating °F (°C)</td>
<td>-4 - 95 (-20 - 35)</td>
</tr>
<tr>
<td>Cooling °F (°C)</td>
<td>50 - 110 (10 - 43)</td>
</tr>
<tr>
<td><strong>Sound level</strong> Heating dBA</td>
<td>64</td>
</tr>
<tr>
<td>Cooling dBA</td>
<td>65</td>
</tr>
<tr>
<td><strong>Safety valve</strong> Pressure (Nom. ESP) Heating PSI/FtHd</td>
<td>7.6 /17.6</td>
</tr>
<tr>
<td>Cooling PSI/FtHd</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Water piping connections</strong> Diameter (OD) in.</td>
<td>ø 1-1/32</td>
</tr>
<tr>
<td><strong>Operation range</strong> Heating °F (°C)</td>
<td>5 - 95 ( -15 - 35)</td>
</tr>
<tr>
<td>Cooling °F (°C)</td>
<td>50 - 114.8 (10 - 46)</td>
</tr>
<tr>
<td><strong>Sound level</strong> Heating dBA</td>
<td>64</td>
</tr>
<tr>
<td>Cooling dBA</td>
<td>65</td>
</tr>
<tr>
<td><strong>Safety valve</strong> Pressure (Nom. ESP) Heating PSI/FtHd</td>
<td>7.6 /17.6</td>
</tr>
<tr>
<td>Cooling PSI/FtHd</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### 6. TECHNICAL SPECIFICATIONS

- **Fan Motor** Model: Brushless DC motor, Output: 1.45, Operation range: Heating °F (-4°F to 95°F), Cooling °F (50°F to 110°F), Domestic water °F (5°F to 95°F).
- **Sound power level** Heating dBA: 64, Cooling dBA: 64.
- **Sound pressure level** Heating dBA: 51, Cooling dBA: 51.
- **Expansion vessel** Volume gal.: 2.64, Max. water pressure PSI: 43.5.
- **Water piping connections** Diameter (OD) in.: ø 1/4, ø 1/4, ø 1/4, ø 1/4, ø 1/4, ø 1/4.

---

*(1) These conditions are based on under floor heating/cooling application*

*(2) Booster heater operation from 95°F (35°C) onwards*

*(3) E(D/B)L* models can reach -4°F (-20°C) but without capacity guarantee*

*(4) For further information pertaining to the hydronic specs of the MonoBloc system, refer to the engineering databook*
**TECHNICAL SPECIFICATIONS**

**HYDROBOX (FOR USE WITH ERLQ018/024/030BAVJU)**

<table>
<thead>
<tr>
<th>HYDROBOX</th>
<th>EKHBH030BAYJU</th>
<th>EKHBX030BAYJU</th>
<th>EKHBH030B6VJU</th>
<th>EKHBX030B6VJU</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Function</strong></td>
<td>Heating only</td>
<td>Heating only</td>
<td>Heating only</td>
<td>Heating only</td>
</tr>
<tr>
<td><strong>Leaving water temperature range</strong></td>
<td>Heating °F (°C) (59°F - 131°F (15°C - 55°C))</td>
<td>Heating °F (°C) (59°F - 131°F (15°C - 55°C))</td>
<td>Heating °F (°C) (59°F - 131°F (15°C - 55°C))</td>
<td>Heating °F (°C) (59°F - 131°F (15°C - 55°C))</td>
</tr>
<tr>
<td><strong>Cooling °F (°C) (59°F - 77°F (15°C - 25°C))</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Drain valve</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Material</strong></td>
<td>Epoxy polyester painted galvanized steel</td>
<td>Epoxy polyester painted galvanized steel</td>
<td>Epoxy polyester painted galvanized steel</td>
<td>Epoxy polyester painted galvanized steel</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>Neutral white (RAL 9010)</td>
<td>Neutral white (RAL 9010)</td>
<td>Neutral white (RAL 9010)</td>
<td>Neutral white (RAL 9010)</td>
</tr>
<tr>
<td><strong>Dimensions (Net)</strong></td>
<td>HxWxD in.</td>
<td>36 5/16 x 19 3/4 x 14 7/32</td>
<td>36 5/16 x 19 3/4 x 14 7/32</td>
<td>36 5/16 x 19 3/4 x 14 7/32</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>Net lbs.</td>
<td>80</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td><strong>Gross lbs.</strong></td>
<td>130</td>
<td>130</td>
<td>130</td>
<td>130</td>
</tr>
<tr>
<td><strong>Factory mounted heater</strong></td>
<td>Capacity kW</td>
<td>3</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td><strong>Capacity Steps</strong></td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Max Overcurrent Protection (MOP)</strong></td>
<td>A</td>
<td>20</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td><strong>Minimum Circuit Amps (MCA)</strong></td>
<td>14.3</td>
<td>14.3</td>
<td>28.6</td>
<td>28.6</td>
</tr>
<tr>
<td><strong>Power supply</strong></td>
<td>208-230V/1Ph/60Hz</td>
<td>208-230V/1Ph/60Hz</td>
<td>208-230V/1Ph/60Hz</td>
<td>208-230V/1Ph/60Hz</td>
</tr>
<tr>
<td><strong>Expansion vessel</strong></td>
<td>Volume gal.</td>
<td>2.64</td>
<td>2.64</td>
<td>2.64</td>
</tr>
<tr>
<td><strong>Max. water pressure PSI</strong></td>
<td>43.5</td>
<td>43.5</td>
<td>43.5</td>
<td>43.5</td>
</tr>
<tr>
<td><strong>Pre Pressure PSI</strong></td>
<td>14.5</td>
<td>14.5</td>
<td>14.5</td>
<td>14.5</td>
</tr>
<tr>
<td><strong>Piping connections diameter in.</strong></td>
<td>1” Male BSP</td>
<td>1” Male BSP</td>
<td>1” Male BSP</td>
<td>1” Male BSP</td>
</tr>
<tr>
<td><strong>Safety valve PSI</strong></td>
<td>43.5</td>
<td>43.5</td>
<td>43.5</td>
<td>43.5</td>
</tr>
<tr>
<td><strong>Total water volume gal.</strong></td>
<td>5.5</td>
<td>5.5</td>
<td>5.5</td>
<td>5.5</td>
</tr>
<tr>
<td><strong>Gas side diameter in.</strong></td>
<td>ø 5/8</td>
<td>ø 5/8</td>
<td>ø 5/8</td>
<td>ø 5/8</td>
</tr>
<tr>
<td><strong>Liquid side diameter in.</strong></td>
<td>ø 1/4</td>
<td>ø 1/4</td>
<td>ø 1/4</td>
<td>ø 1/4</td>
</tr>
<tr>
<td><strong>Operation range</strong></td>
<td><strong>Waterside</strong></td>
<td>Heating °F (°C) (59°F - 77°F (15°C - 25°C))</td>
<td>Heating °F (°C) (59°F - 77°F (15°C - 25°C))</td>
<td>Heating °F (°C) (59°F - 77°F (15°C - 25°C))</td>
</tr>
<tr>
<td><strong>Cooling °F (°C) (59°F - 77°F (15°C - 25°C))</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

When connected to outdoor units:

**Units with optional backup heater only**

- **Operating Range Heating Mode**
  - **Outdoor Temp.**
    - **˚F**
      - 50
      - 40
      - 32
      - 25
      - 15
  - **˚C**
    - 122
    - 59
    - 30
    - 15

- **Operating Range Cooling Mode**
  - **Outdoor Temp.**
    - **˚F**
      - 50
      - 40
      - 32
      - 25
      - 15
  - **˚C**
    - 122
    - 59
    - 30
    - 15

*Back up heater operation between 59°F (15°C) and 77°F (25°C)*
<table>
<thead>
<tr>
<th>Function</th>
<th>EKHBH054BA3VJU</th>
<th>EKHBX054BA3VJU</th>
<th>EKHBH054B6VJU</th>
<th>EKHBX054B6VJU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating only</td>
<td>Heating only</td>
<td>Heating only</td>
<td>Heating only</td>
<td>Heating only</td>
</tr>
<tr>
<td>Reversible</td>
<td>Reversible</td>
<td>Reversible</td>
<td>Reversible</td>
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<tr>
<td>Leaving water</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>temperature range</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>°F (°C)</td>
<td>(59) 77 - 131*</td>
<td>(15) 25 - 55</td>
<td>(59) 77 - 131*</td>
<td>(15) 25 - 55</td>
</tr>
<tr>
<td>Drain valve</td>
<td></td>
<td></td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>Material</td>
<td>Epoxy polyester painted galvanized steel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>Neutral white (RAL 9010)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions (Net)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HxWxD</td>
<td>36 5/16 x 19 3/4 x 14 7/32</td>
<td>36 5/16 x 19 3/4 x 14 7/32</td>
<td>36 5/16 x 19 3/4 x 14 7/32</td>
<td>36 5/16 x 19 3/4 x 14 7/32</td>
</tr>
<tr>
<td>Weight</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net lbs.</td>
<td>123</td>
<td>123</td>
<td>123</td>
<td>123</td>
</tr>
<tr>
<td>Gross lbs.</td>
<td>152</td>
<td>152</td>
<td>152</td>
<td>152</td>
</tr>
<tr>
<td>Factory mounted heater</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capacity</td>
<td>kW</td>
<td>kW</td>
<td>kW</td>
<td>kW</td>
</tr>
<tr>
<td>Capacity Steps</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Max Overcurrent Protection (MOP)</td>
<td>20 A</td>
<td>20 A</td>
<td>30 A</td>
<td>30 A</td>
</tr>
<tr>
<td>Minimum Circuit Amps (MCA)</td>
<td>14.3 A</td>
<td>14.3 A</td>
<td>28.6 A</td>
<td>28.6 A</td>
</tr>
<tr>
<td>Power supply</td>
<td>208-230V/1Ph/60Hz</td>
<td>208-230V/1Ph/60Hz</td>
<td>208-230V/1Ph/60Hz</td>
<td>208-230V/1Ph/60Hz</td>
</tr>
</tbody>
</table>

**HYDROBOX** (FOR USE WITH ERLQ036/048/054BAVJU)

*Back up heater operation between 59°F (15°C) and 77°F (25°C)*
DOMESTIC HOT WATER TANK

<table>
<thead>
<tr>
<th>EKHW505BA3VJU</th>
<th>EKHW5080BA3VJU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water volume</td>
<td>gal. 52.8</td>
</tr>
<tr>
<td>Max. water temperature °F (°C)</td>
<td>185 (85)</td>
</tr>
<tr>
<td>Max. water pressure PSI</td>
<td>145</td>
</tr>
<tr>
<td>Insulation (Polyurethane foam) Min. thickness in.</td>
<td>1 5/8</td>
</tr>
<tr>
<td>Height in.</td>
<td>45 3/8</td>
</tr>
<tr>
<td>Diameter in.</td>
<td>22 7/8</td>
</tr>
<tr>
<td>Booster heater kW</td>
<td>3</td>
</tr>
<tr>
<td>Piping connections</td>
<td>Water inlet H/E Diameter in.</td>
</tr>
<tr>
<td></td>
<td>Water outlet H/E Diameter in.</td>
</tr>
<tr>
<td></td>
<td>Cold water in Diameter in.</td>
</tr>
<tr>
<td></td>
<td>Hot water out Diameter in.</td>
</tr>
<tr>
<td>Minimum Circuit Amps (MCA) A</td>
<td>14.3</td>
</tr>
<tr>
<td>Maximum Overcurrent Protection (MOP) A</td>
<td>20</td>
</tr>
<tr>
<td>Power supply 208-230V/1Ph/60Hz</td>
<td></td>
</tr>
<tr>
<td>Material inside tank Stainless steel (DIN 1.4521) - 316L</td>
<td></td>
</tr>
<tr>
<td>Material outside casing Epoxy-coated mild steel</td>
<td></td>
</tr>
<tr>
<td>Dimensions (Net) HxWxD in. 45 9/32 x 22 27/32 x 22 27/32</td>
<td></td>
</tr>
<tr>
<td>Empty weight lbs. 99 129.8</td>
<td></td>
</tr>
</tbody>
</table>

Note: 3-Way Valve is factory included with the Domestic Hot Water Tank for field installation

SOLAR KIT

<table>
<thead>
<tr>
<th>EKSLHWWBAVJU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat exchanger pressure drop psi 3.12</td>
</tr>
<tr>
<td>max. inlet temp °F (°C) 230 (110)</td>
</tr>
<tr>
<td>heat exchange capacity W/K 1,400</td>
</tr>
<tr>
<td>Logarithmic mean temperature difference (LMTD) K 5</td>
</tr>
<tr>
<td>Pump Number of speeds 3</td>
</tr>
<tr>
<td>Power input W 46</td>
</tr>
<tr>
<td>Water circuit Piping connections diameter in. 3/4 FBSP</td>
</tr>
<tr>
<td>Ambient temperature max. °F 95 (35)</td>
</tr>
<tr>
<td>min. °F 33.8 (1)</td>
</tr>
<tr>
<td>Power supply 208-230V/1Ph/60Hz</td>
</tr>
<tr>
<td>Power supply intake from indoor unit</td>
</tr>
<tr>
<td>Dimensions (Net) HxWxD in. 30 1/32 x 12 x 10 1/32</td>
</tr>
</tbody>
</table>

ROOM THERMOSTAT

| EKRTWA |
|----------------|----------------|
| Ambient temperature Storage °F (°C) -4 - 140 (20 - 60) |
| Temperature setpoint range Heating °F (°C) 39.2 - 98.6 (4 - 37) |
|                     Cooling °F (°C) 39.2 - 98.6 (4 - 37) |
| Clock yes |
| Regulation function proportional band |
| Dimensions (Net) HxWxD in. 3 27/64 x 4 59/64 x 1 11/32 |
| Weight (Net) lbs. 0.47 |
FAN COIL UNIT

Capacity

<table>
<thead>
<tr>
<th>Capacity</th>
<th>018</th>
<th>024</th>
<th>030</th>
<th>036</th>
<th>048</th>
<th>054</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model Number (No Electric Heat Options)</td>
<td>EFWT024AEVLU **</td>
<td>EFWT024AEVLU</td>
<td>EFWT036AEVLU **</td>
<td>EFWT036AEVLU</td>
<td>EFWT048AEVLU</td>
<td>EFWT060AEVLU</td>
</tr>
<tr>
<td>Model Number (With Electric Heat Options)</td>
<td>EFWT024AEVLU</td>
<td>EFWT024AEVLU</td>
<td>EFWT036AEVLU</td>
<td>EFWT036AEVLU</td>
<td>EFWT048AEVLU</td>
<td>EFWT060AEVLU</td>
</tr>
</tbody>
</table>

Cooling Performance (chilled water cooling):

- Nominal Capacity Btu/hr: 19,100, 22,600, 28,600, 32,000, 42,700, 52,400
- Nominal Sensible Capacity Btu/hr: 14,200, 17,700, 22,400, 25,800, 34,700, 42,400
- EWT Range °F: 40 - 50°F
- Nominal Flow Rate GPM: 4.5, 5.0, 6.0, 6.0, 8.0, 10.0
- Nominal Pressure drop Ft H2O: 5.5, 7.7, 4.8, 5.5, 5.4, 7.9

Heating Performance (hot water heating):

- Nominal Capacity Btu/hr: 19,300, 25,000, 31,900, 34,800, 50,200, 60,900
- EWT Range °F: 100 - 125°F
- Nominal Flow Rate GPM: 3.0, 4.5, 4.5, 4.5, 8.0, 10.0
- Nominal Pressure drop Ft H2O: 2.5, 5.5, 3.0, 3.0, 5.4, 7.9

Airflow Rate:

- Nominal: CIR 600, 800, 1050, 1200, 1600, 2000
- Total External Static Pressure WG*: 0.3" WG Std, 0.5" WG Max

Blower Speed setting: *C = FACTORY SETTING, *A = FACTORY SETTING, *B = FACTORY SETTING

Motor rating: HP 1/3 HP, 1/2 HP, 3/4 HP, 1 HP

Electrical Data (No Electric Heat Options):

- Power supply: 120V / 1 / 60Hz
- Minimum Circuit Amps (MCA): 6.0, 6.0, 10.0, 10.0, 14.0, 15.0

Electrical Data (With Electric Heat Options):

- Power supply: 208-230V/1Ph/60Hz
- Minimum Circuit Amps (MCA): 3.0, 3.0, 4.0, 4.0, 6.0, 9.0

Electrical Heater Options: 10 to 25kW

Electrical Heat Integral Disconnect: FACTORY INSTALLED SERVICE SWITCH OVER 10KW (NO DISCONNECT)

Physical Data:

- Dimension HxWxD: 40 x 20 x 20, 40 x 23 x 20, 48 x 21-1/4 x 28
- Weight lbs: 115, 170, 230
- Insulation type / R-Rating: 1/2" JM TUF-SKIN

Installation Clearances:

- U.L. LISTED FOR INSTALLATION WITH ZERO INCHES CLEARANCE TO COMBUSTABLE MATERIALS

Connection type:

- Connection Type: Sweat, Sweat, Sweat, Sweat, Sweat, Sweat
- Air Filter (MERV 8 Throwaway): 18 x 20 x 1, 20 x 22 x 1, 20 x 25 x 1

Notes:

1. Cooling Capacity is based on 50°F Entering Water Temp and 80°F DB/67°F WB Entering Air Conditions.
2. Heating Capacity is based on 110°F Entering Water Temp and 70°F DB Entering Air Conditions.
3. Refer to detailed capacity tables for further information pertaining to the entire entering water temperature range and for flow rates and pressure drop.
4. Refer to engineering data book for further information on electric heat options.
5. Std efficiency models with PSC motor are available on request.

OPTION LIST

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</table>
Control customized to your customer

The water temperature changes in function with the outside temperature so that your customer can enjoy a stable level of heating at any time. As the installer, you set up the system according to the desires of your customer. You input four temperatures to determine the “heating curve” and in doing so, you perfectly tune the Daikin Altherma system to the type of home.

Automatic re-start after power interruption

In the event of a power interruption of up to two hours, the system automatically resumes with the previously set parameters.

Quiet operation

The outdoor unit makes hardly any noise thereby leaving your customer’s (and the neighbor’s) peace and quiet undisturbed. You can even set the outdoor unit to produce 10dB(A) less noise during the night.

Electric back-up heating

Every Daikin Altherma system is equipped with a back-up heater (heating capacity of 3 or 6 kW). This unit can be used for supplemental heating during extremely cold outdoor temperatures or as a back-up in case of any problems with the outdoor unit. Your customer can then enjoy comfortable heating at any moment.

The operation of the back-up heater can be coupled to the outside temperature. The back-up heater will then only operate when outside temperatures are extremely low.

DID YOU KNOW…

with a Daikin Altherma™ heat pump, the temperature of the domestic water can go up to 185°F (85°C), the temperature of the hot water for heating ranges between 59°F (15°C) and 131°F (55°C) and the temperature of the cold water for cooling between 41°F (5°C) and 72°F (22.2°C).
Daikin Altherma’s “simulator” software program allows quick and easy indication of the benefits of a Daikin Altherma system.

By specifying a number of parameters such as the location, the surface area to be heated, the required heating and cooling capacity, the entry and exit water temperatures of the distribution network and the local energy prices, the program displays the following simulation details.

1. Material list with technical specification

2. Simulation graphics:
   a) Required and available heating and cooling capacity with indication of the SPF (or Seasonal COP) and Annual EER based on the defined climate conditions.
   b) Duration of the heating and cooling operation periods as a function of the outside temperature
   c) The annual energy cost compared with a heating system using gas or fuel oil
   d) The annual amount CO2 emitted in tonnes compared with a heating system using gas or fuel oil
   e) The monthly energy consumption in kWh
   f) The monthly energy cost in dollars
   g) The total amount of thermal energy in kWh as a function of the outside temperature
   h) The radiated heat per ft² (in Btu/ft²) per month

All data is collected in a separate report. If you are interested in this software, contact your local Daikin Altherma distributor.
OTHER RESIDENTIAL SOLUTIONS AVAILABLE

THE DAIKIN EDGE
FOR RESIDENTIAL LIVING

Daikin is the only company in the world dedicated to manufacturing both air-conditioning systems and refrigerants. Each component has been designed to work flawlessly with the next – delivering optimal performance – from the time a project begins to the moment of experiencing absolute comfort.

From single zone to whole house solutions, Daikin’s advanced residential systems provide energy efficiency, reliability, and individual zone control for practically any home.
WARNINGS:

- Always use a licensed installer or contractor to install this product. Do not try to install the product yourself. Improper installation can result in water or refrigerant leakage, electrical shock, fire or explosion.

- Use only those parts and accessories supplied or specified by Daikin. Ask a licensed contractor to install those parts and accessories. Use of unauthorized parts and accessories or improper installation of parts and accessories can result in water or refrigerant leakage, electrical shock, fire or explosion.

- Read the User’s Manual carefully before using this product. The User’s Manual provides important safety instructions and warnings. Be sure to follow these instructions and warnings.

- For any inquiries, contact your local Daikin sales office.